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ABSTRACT OF THE DISCLOSURE

A method for fabricating a titanium nitride (TiN) sensing membrane on an extended gate field effect transistor (EGFET). The method comprises the steps of depositing a
5 layer of aluminum on a gate terminal of the EGFET using thermal evaporation and forming the TiN sensing membrane on an exposed part of the layer of aluminum in the sensitive window as an ion sensitive sensor (pH sensor) using a radio frequency (RF) sputtering process. Because TiN is suitable
10 for use in a standard CMOS process, all the elements in the sensing device can be mass produced and offer the benefits of low cost, high yield, and high performance.